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ABSTRACT

To aid in the search for exemplary environmental education programs, the National Science Teachers Association has developed this second edition inventory of science programs related to the environment. Only those programs who have materials available to other school systems or individuals and who can handle inquiries are included. One hundred and six programs are listed in 34 states and United States possessions - Washington, D. C. and Guam. Included in this total is updated information on 30 programs previously described in the 1970 edition. Each entry provides program name and address, program director and address, a brief description of the program, and materials available. A related document is SE 012 551. (BL)

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PROGRAMS IN ENVIRONMENTAL EDUCATION

SE 012 628

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Compiled by
The National Science Teachers Association
1971

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FOREWORD

An eagerness to develop programs of environmental education and to profit from the experiences of others leads many science teachers and curriculum planners to search for examples of such programs. This publication is an effort by the National Science Teachers Association to aid in this search and to serve as a clearinghouse for exchange of information about science programs related to the environment. For the first edition, in 1970, NSTA sought information about environmental education programs as part of a survey to update the NSTA bibliographies on Curriculum Materials and Courses of Study in Science. The inquiry form was sent to all state supervisors of science, all members of the National Science Supervisors Association, school systems represented in the NSTA curriculum bibliographies. For this 1971 edition inquiries were sent to these persons and to persons and institutions represented in the 1970 edition. As with the bibliographies, the primary purpose is to locate materials that are available to other school systems or individuals. A second request to the schools having environmental programs is to report only those that can handle inquiries, either by mail or in person. Because of these stipulations relating to materials and service, many programs and probably excellent ones are not described here. This listing, therefore, makes no claim to being a directory or even a compilation of all efforts underway. Nevertheless, the Association believes that this publication will serve a useful purpose in this emerging field and may point the way for future efforts by the Association. Reactions and suggestions will be welcomed at any time.

In comparing the 1971 listing with that of 1970, it appears evident that a greater percentage of the programs include teacher training and have curriculum materials available. In addition, the curriculum content is generally broader in aspect. Further, more schools and school systems have replied to our inquiries, seemingly indicating an increased readiness to handle public interest in what they are doing.

Mary E. Hawkins
Associate Executive Secretary, NSTA

PROGRAMS IN ENVIRONMENTAL EDUCATION

ALABAMA

Reading Enrichment and Outdoor Education
Holly Springs Outdoor Education Center
Tuscaloosa, Alabama

Dr. Jayne A. Mayer
Coordinator of Federal Projects
Tuscaloosa County Board of Education
P. O. Box 2568
Tuscaloosa, Alabama 35401

Description: The Center promotes a better understanding of natural resources through firsthand experimentation. The students are in grades 1-12, the Center is open year round. Specific activities include conservation, pollution, camp-craft skills, nature-related arts and crafts, recreational sports, wildlife study, safety, and first aid and safety. Inservice training and teachers workshops as well as student preparation and follow-up activities are part of the program. The project is funded under ESEA, Title III.

ARIZONA

Environmental Preservation through
Resource Development
Many Farms High School
Many Farms, Arizona

Mr. Carl Hime
Box 577
Many Farms, Arizona 86503

Description: Students in grades 9-12 are able, through 12 months of activity, to become involved in such action as publication of Environmental Studies Reports (e.g. Black Mesa Reports), field trips to Four Corners area, Outdoor Classroom, a Pollution Testing Center, and producing newspaper articles. Student preparation and follow-up are included.

Materials: Some curricular material is available.

CALIFORNIA

Science Curriculum Improvement
Study (SCIS)
Lawrence Hall of Science
University of California
Berkeley, California

Mr. Jack Fishleder
Implementation Program Leader, SCIS
Lawrence Hall of Science
University of California
Berkeley, California 94720

Description: SCIS has a six-year elementary school life science program in which the children derive the basics of ecology through observing and experimenting, while they work directly with living organisms. The six units are

CALIFORNIA (Continued)

as follows: First-year unit, Organisms; second-year unit, Life Cycles; third-year unit, Populations; fourth-year unit, Environments; fifth-year unit, Communities; and sixth-year unit, Ecosystems.

Materials: Curriculum guides and unit kits are available. Newsletters and brochure "Ecology and Children" by Dr. Chester Lawson, free upon request. In addition SCIS offers: SCIS Sourcebook, $1; Material Objects, Life Cycles, Environments, $3 each; Populations, Communities, Ecosystems (preliminary editions), $2 each. Also available are the following curriculum guides in physical sciences: Material Objects, Interaction and Systems, Subsystems and Variables, Energy Sources, $3 each; Relativity, Position and Motion, Models for Electric and Magnetic Interaction (preliminary editions), $2 each.

COLORADO

Balarat Center for Environmental Studies
Denver, Colorado

Mr. Kenneth Horn
Supervisor of Science Education
1521 Irving Street
Denver, Colorado 80204

Description: Balarat is a 5th-grade resident school for all students in the Denver Public School School system. It has a program for the blind, deaf, and ambulatory; career education in Outdoorsmen Program for senior high school students; multi-use enrichment programs for all subject areas; teacher inservice training and performing arts; and a one-day field experience program. Specific activities include wildlife, earth science, marine biology, pollution, safety outdoors, art, music, drama, and other subject areas. Inservice training and teachers workshops are a part of the program, as are student preparation and follow-up.

Materials: The pilot project "Denver Urban Environmental Studies" and "Trail Guide," for teachers in the system only.

Environmental and Conservation Education
Aurora Public Schools
Aurora, Colorado

Mr. Ed Butterfield
Aurora Public Schools
1085 Peoria Street
Aurora, Colorado 80010

Description: The Plains Conservation Center is available to K-12 student groups, and here three-hour sessions on environment and conservation are offered throughout the school year. The Center has 2,000 acres of suburban prairie that is an outdoor laboratory preserved in its natural state, and here students examine the social history and ecology of the plains. Teachers receive individual orientation; student preparation and follow-up activities are included.

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COLORADO (Continued)

Jefferson County Outdoor Education
Laboratory School
Lakewood, Colorado

Mrs. Thelma Whiteman
Resource Specialist for Outdoor Education
Jefferson County Public Schools R-1
809 Quail Street
Lakewood, Colorado 80215

Description: This program operates each week of the school year and is offered to all 6th-graders in the school district for one entire week. The students sleep in dormitories at the Jefferson County Outdoor Education School, which is located in 550 acres of mountain and meadowland.

The school district releases new 6th-grade teachers for a full day inservice training session at the school before accompanying students for a week. Night and summer college courses are also available, and summer workshops are conducted at the Outdoor School by local colleges and universities. For the students, in addition to the week at the Outdoor School, there are from 3-4 weeks preparation and various follow-up activities in the regular classroom.

Materials: Outdoor Education Guide, $5.50 per copy.

Northern Colorado Outdoor Nature
Center Project
Poudre R-1 School District
Ft. Collins, Colorado

Dr. Bruner
Department of Education
Colorado State University
Ft. Collins, Colorado 80521

Description: This comprehensive K-12 program operates all year and covers activities in wildlife study, earth science, marine biology, pollution, safety outdoors, and other topics. It takes place at school and areas nearby. In-service training and teachers workshops are included, as are student preparation and follow-up.

Materials: Environmental Education Curriculum Guide, $1.50. Write: Dr. Buford Flemmons, Director of Information and Research, Poudre R-1 School District, 2407 LaPorte Avenue, Ft. Collins, Colorado 80521.

Society and Technology
Aurora Public Schools
Aurora, Colorado

Mr. Rolla Rissler
Aurora Public Schools
1085 Peoria Street
Aurora, Colorado 80010

Description: Based at the school but using the community as an outdoor laboratory, this course examines the problems which arise from interaction between society and technology. It is offered in junior and senior high school, two periods a day for the full year. Examined are population and health problems

COLORADO (Continued)

and all forms of pollution, with the students using systems analysis and working with decision-making. Inservice training and teachers workshops are included, as are student preparation and follow-up activities.

Program is in areas of biology, human ecology, and outdoor education

Dr. Dan Van Gerp
Science Coordinator
Cherry Creek High School
4700 So. Yosemite Street
Englewood, Colorado 80110

Description: The program is taught for elementary through high school students throughout the school year and includes a two-week summer session at a mountain camp (Pinque Park) belonging to the Colorado State University. Specific activities include human and non-human ecology, science, social studies, art, math, and so on. The program works with Indians from Pine Ridge Reservation. Inservice training and teachers workshops are proposed; student preparation and follow-up are already a part of the program.

Materials: A rough draft of a curriculum guide is available.

CONNECTICUT

Ecology
Darien High School
Darien, Connecticut

Edmund F. Lankowski
Mather Junior High School
Darien, Connecticut 06820

Description: This half-year biology course meets every day for a program involving lectures, demonstrations, and some laboratory work. Topics covered include biology, chemistry, and physics as related to conservation, and aspects of environmental pollution.

The course is structured for students who (1) have major interests in areas other than science, (2) wish to study a specific area of science without preparing for more advanced courses, and (3) are failing a full year science course by midyear and have little hope or ability to improve before the end of the school year.

CONNECTICUT (Continued)

Ecology - 4th grade; Man and his Environment - Junior High; Biological Oceanography and The Human Environment - Senior High
Greenwich Public Schools
Greenwich, Connecticut

Dr. Murray Stock
P. O. Box 292
Havemeyer Building
Greenwich, Connecticut 06830

Description: This program aims to promote student understanding of the principles and social implications of the interrelationships among living things and their environment. Parts of Ecology are taught in fall, winter, and spring; others are taught for one semester (20 weeks). Specific activities include: wildlife study, earth science, marine biology, pollution, safety outdoors, and social science. Inservice training, teacher workshops, student preparation and follow-up are included.

Materials: Curriculum guides available, for all but Biological Oceanography, at $2 each.

Ecology Environment Group (EEG)
Wilton High School
Wilton, Connecticut

Dr. E. Dan Cappel
Chairman, Science Department
Wilton High School
363 Danbury Road
Wilton, Connecticut 06897

Description: During the school year, with some projects extending through summer, students in grades 9-12 assist the town in dealing with community environmental problems. Activities include gypsy moth caterpillar defoliation studies, solid waste disposal and recycling, and community water resources. This student action group of about 50 members works with community and governmental groups and also on their own projects and studies.

Environmental Education
Trumbull Public Schools
Trumbull, Connecticut

Mr. Thomas E. Tinsley, Jr.
Science Coordinator
Trumbull Public Schools
401 Stonehouse Road
Trumbull, Connecticut 06611

Description: Here efforts are directed toward (1) making the town aware of environmental problems and offering alternatives, (2) education in the total environment, and (3) involving the total populace. Students involved are from grades 4-12, with an active environment club at the junior and senior high school level. Specific activities include school-yard ecology, outdoor laboratory work, environmental problem action (recycling, etc), and assistance to the town by research teams. The goals and activities are flexible, being created according to the needs, and so are called "Self-directed - Self-motivated - Self-terminating."

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Inservice training and teacher workshops are included, as are preparation and follow-up in which a Coordinating Council has been set up to insure continuation of the program.

Man and the Marine Environment and
Terra and Marine Ecology
Stamford Public Schools
Stamford, Connecticut

Mr. Walter Plant
Rippowam High School and
Miss Grace Polozotti
Ryle School
Stamford, Connecticut

Description: Students from grades 4-6 and 10-12 work with marine situations, pollution, and wildlife in this 10-week use of the Long Island Coastline and the Windward Institute of Oceanography. Inservice training and teachers workshops are part of the program, as are student preparation and follow-up.

Materials: Curriculum guides are available from Mr. Paul E. Pelhik, Director of Science, Stamford, Connecticut.

Project LIFE: Living in
Fairfield's Environment
Fairfield Public Schools
Fairfield, Connecticut

Dr. Bette J. Del Giorno
Project LIFE
Environmental Research and Development Center
Nathan Hale Builidng
75 Nathan Hale Street
Fairfield, Connecticut 06430

Description: This K-12 program operates throughout the academic year and is all-inclusive. It emphasizes gaining insight into the ecological, social, economic, political, cultural, and aesthetic aspects of solving socio-scientific problems related to improving the quality of the environment and of maintaining an ecological balance. Project LIFE is a three-phase school-community cooperative plan for alerting the citizens to environmental needs, for developing K-12 student and teacher curricular materials with broad application, and for training teachers in service in the area of environmental education.

Materials: Curriculum Guides are presently being developed. Interim documents are available in limited number; completed mimeographed documents will be available at $1-$2.

DELAWARE

Environmental Awareness
Delaware Nature Education Center
Greenville, Delaware

Mr. Michael E. Riska
Youth Director
Delaware Nature Education Center
Box 3900
Greenville, Delaware 19807

Description: This eight-month program for 4th-grade students focuses on creating an awareness of natural surroundings in the school area first and then at the center. Specific activities include studies of trees, city organisms, and pollution. Inservice training, teachers workshops, student preparation and follow-up are part of the program.

Environmental Laboratory
New Castle-Gunning Bedford School District
Delaware

Mr. Roger L. Daum
Coordinator
Environmental Laboratory
Gunning Bedford Middle School
Delaware City, Delaware 19706

Description: The Environmental Laboratory has as a principal objective the education of students to understand, appreciate, and gain concern for the ramifications of natural and man-imposed changes in the environment. The 11-month (academic school year and summer, minus two weeks in June and August each) program for students in grades K-12 investigates natural (field, forest, marsh) and man-induced (evergreen plantings, Lespedeza meadows, agricultural "weeds"), asphalt and cement areas, and air pollution environments. The Environmental Laboratory is located at a school site of 63 acres, consisting of the school building and attendant driveways, sidewalks, and so on, and 40 acres of grassland, 11 acres of woodland sloping to 12 acres of impounded marsh. Inservice training, teachers workshops, student preparation, and follow-up activities are part of the program.

Materials: "Suggested Field Trip Curriculum Guide for the Outdoor Laboratory of the New Castle-Gunning Bedford School District." Free, while supply lasts.

Outdoor Laboratory
Newark School District
Newark, Delaware

Mrs. Catharine Y. Bonney
Science Supervisor, or
Mrs. Beatrice T. Derickson
Teacher-Naturalist
83 E. Main Street
Newark, Delaware 19711

Description: The Outdoor Laboratory brings students into contact with ecological areas where they can explore the natural phenomena in a structured situation. The program runs throughout the school year. It involves all students in grades 1-5 with some trips for grades 6 and 7; kindergarten children are taken on tours of the school grounds. Activities are: seasonal changes, wildlife study, con-

servation, earth science, and plant identification. The emphasis at each grade level is to supplement that science program, and so the program is designed to fit the season of the trip.

Inservice training and teachers workshops are part of the program. Each class receives an orientation before participating in the program; follow-up activities are included in the teachers guide. Student leaders are chosen from each group to assist the teacher-naturalist with on-site activities.

Materials: If interested, write to the Director of Information Services, Newark School District, 83 E. Main Street, Newark, Delaware 19711 for the Curriculum Guide (K-5) Outdoor Laboratory, $1.50.

DISTRICT OF COLUMBIA

Habitat & Resources
Association of American Geographers
Washington, D. C.

Association of American Geographers
1710 Sixteenth St., N.W.
Washington, D. C. 20009

Description: Habitat and Resources is a part of the High School Geography Project of the Association of American Geographers. In the unit, which requires between five and seven weeks teaching time, the major emphasis is on the interaction of man and his natural environment. One of the activities compares two areas, the Salton Sea area of California and the Nile Delta, which are very similar in their physical characteristics but quite different in the way man has modified the natural habitat. Another activity indicates the influence of geological characteristics on the transportation routes, farming, and settlements of an area.

A number of activities focus on problems associated with man's use of his environment. One deals with flood hazards. Students analyze a manufacturing firm's flood problem and play a simulation game in which they assume the roles of company executives and town citizens who, based on their own needs and interests, recommend adjustments the firm should make to prevent flood damage. Another activity deals with the concept of water balance and its relationship to river pollution. In the final activity, New York City serves as the case study for analyzing the problems of pollution and waste. Students learn how waste disposal decisions can affect ecological balance.

Materials: Habitat and Resources is one of six units developed by the High School Geography Project. Available from the Macmillan Co., School Division, 866 Third Avenue, New York, New York 10022. $78.45 for a classroom set for 30 students. (This price is subject to change by Macmillan.)

FLORIDA

Ecology and Environmental Education
Dade County Public Schools
Miami, Florida

Harriet Ehrhard
Consultant, Science Education
Dade County Public Schools
1410 N.E. Second Avenue
Miami, Florida 33132

Description: In this year program for students in grades 7-12 courses are offered in junior and senior high schools, relating to the ecology and natural history of South Florida, marine biology, and environmental problems. Laboratory activities and field work are stressed. Several nine-week units have been developed. Inservice training, teachers workshops, student preparation, and follow-up activities are included.

Materials: Your World and Welcome to It; Does It Have to be a Dirty World:; Man and Nature; Pollution; Basic Fundamentals of Ecology; Adventures in Ecological Reading; Animal Ecology in South Florida; Environmental Crises - Man's Unbalancing of Nature's Balance; Urban Ecology; Introduction to Ecology of South Florida Species; Science and Society; Human Ecology; Freshwater Ecology of South Florida; Ecology of Terrestrial Species of South Florida; Marine Ecology of South Florida; The Literature of Ecology; Recreation and the Sea, Introduction to Marine Science; Man and the Sea; Oceanography; Marine Vertebrates and Plants; Invertebrate Marine Biology. Available from Textbook Services, Dade County School Board, 2210 S.W. Third Street, Miami, Florida 33135.

Environmental Education Center
Dade County Public Schools
Miami, Florida

Harriet Ehrhard
Consultant, Science Education
Dade County Public Schools
1410 N.E. Second Avenue
Miami, Florida 33132

Description: From September to August students in grades 4-9 are involved in a two-day study of the interrelationships and interdependencies found along a water beach and in a wooded area. They are introduced to laboratory studies related to the organisms which they have observed in their natural habitats and the environmental quality of the surrounding air. Meteorological information and forecasts are reviewed as they relate to current conditions. Inservice training, teachers workshops, student preparation, and follow-up are included.

Materials: Ecology in the Elementary School, Bulletin 8B-1. Available from Textbook Services, Dade County School Board, 2210 S.W. Third Street, Miami, Florida 33135. Price $2.50.

Environmental Sensitivity Project
Environmental Studies Center
Pensacola, Florida

Mr. Roy L. Hyatt
Director
Environmental Sensitivity Project
2501 N. Hayne Street
Pensacola, Florida 32503

Description: This Project is funded at present under Title III of Public Law 89-10 and serves Escambia and Santa Rosa Counties.

The Environmental Sensitivity Project aims to make ecology a vital and effective part of the elementary school curriculum in the cooperating counties. The program focuses on training and experiences in environmental education for 2nd- and 5th-grade teachers. Teachers begin with an orientation workshop and move on to a series of field trips. Ready to interpret the areas to the students, the teachers take their students on field trips, assisted by two teacher-naturalists from the Center. Also included are an environmental library and ecological museum, which are open to the public as part of a specific objective of involving the community in this field. Teachers and students also use the ecological museum and resource library of the Environmental Studies Center in the J. Lee Pickens School, Pensacola.

The program operates 12 months in the year (service to teachers and students is limited to school year of 10 months, however) on sites of the University of West Florida campus, and the Shoreline Park beach as well as in other areas.

Everglades National Park Shark
Valley Project and Environmental
Study Area
Dade County Public Schools
Miami, Florida

Harriet Ehrhard
Consultant, Science Education
Dade County Public Schools
1410 N.E. Second Avenue
Miami, Florida 33132

Description: For students in grades 4-6 and operating October - May, the program offers activities in which the students (1) study the effect of change and the resulting problems from the time they leave their schools until they arrive in Everglades Park, (2) investigate changes in Shark Valley of the Park, and (3) at the Environmental Study Area stress the ideas of change, variety and patterns, similarities, adaptations, and interdependence. Inservice training, teachers workshops, student preparation, and follow-up are part of the program.

Materials: Curriculum guides are being developed by the Park Staff in cooperation with the Dade County Schools.

FLORIDA (Continued)

Florida Master Plan for Environmental Education
Florida Department of Education
Tallahassee, Florida

Mr. C. Richard Tillis
State Consultant
Environmental Education
516 Knott Building
Tallahassee, Florida 32304

Description: This program provides the framework for a K-12 interdisciplinary area approach to environmental education for the state of Florida. Operating throughout the year, for grades K-12, the program involves preparing a master plan which incorporates finding some educational research specific goals, specific objectives, and guidelines for further development of a state plan in environmental education. Inservice training and teachers workshops are included, as are student preparation and follow-up.

Materials: Curriculum guides available.

In-Service Programs in Environmental Education
Dade County Public Schools
Miami, Florida

Harriet Ehrhard
Consultant, Science Education
Dade County Public Schools
1410 N.E. Second Avenue
Miami, Florida 33132

Description: These courses are planned variously for teachers of elementary and secondary school and for interested personnel. The courses vary in length from intensive one-day sessions to fifteen two-hour sessions. Depending on the course, teachers may experience field and laboratory activities, some lecture-discussion, and review and use of media. Sites include schools, parks, the Museum of Science, research centers, and private property - wherever a peoblem or challenge occurs.

Marine Science Education Center
Mayport, Florida

Mr. George E. Mann
Project Director
1347 Palmer Street
Mayport, Florida

Description: The Center is designed to enrich the science program of K-12 students in Duval County by giving them experience in the marine science field during the whole year. Students visit the Center after completing units in school. At the Center they spend half the day in boats, at the beach, or at the marsh collecting and identifying specimens. The remainder of the day is spent in the laboratory working on marine biology, chemistry, and/or physical science.

Inservice training and teachers workshops as well as student preparation and follow-up activities are included.

FLORIDA (Continued)

Materials: Curriculum guides, $1 each - Set I (Grades 1-5), Set II (Grade 6), Set III (Elementary Reading), Set IV (Junior High), Set V (Senior High). Other materials developed include: audio tapes, video tapes, transparencies, slides, motion pictures, specimen kits, laboratory kits, and booklets.

Nature's Classroom
Tampa, Florida

Mr. Henry Verges
Principal
Nature's Classroom
707 E. Columbus Drive
Tampa, Florida

Description: Nature's Classroom operates all year (11½ months) and involves preschool, 1-2-3 follow through, and 6th grade students and USF teachers. Specific activities include wildlife study, earth science, water safety, lifetime recreational skills, fauna, and flora. Inservice training, teachers workshops, student preparation, and follow-up are part of the program.

Materials: Curriculum guides have been developed.

South Florida Environmental
Science Media Units
Dade County Public Schools
Miami, Florida

Harriet Ehrhard
Consultant, Science Education
Dade County Public Schools
1410 N.E. Second Avenue
Miami, Florida 33132

Description: The materials for this year program for students in grades 7-12 are prepared particularly to catch the interest of reluctant learners. Units One through Eleven focus on biological elements of the environment, and Units Twelve through Twenty-one stress physical and chemical aspects of South Florida. Each Unit includes instructions for use, a pre- and post-test for each title within the unit, follow-up laboratory activities, reference lists, resource people, and evaluation. Inservice training and teachers workshops are also a part of the program.

Materials: South Florida Environmental Science Media Units Guide, Bulletin 8B2-MU-1-11. Available from Textbook Services, Dade County School Board, 2210 S. W. Third Street, Miami, Florida 33135.

GUAM

Environmental Curriculum Development Program
Guam Department of Education
Agana, Guam

Mr. Dave Hotaling
Guam Department of Education
Box DE
Agana, Guam 96910

Description: This program is just beginning as part of a two-year project. The full pilot program beings in September 1972. At present conception it is geared to students in grades 1-6.

ILLINOIS

Operation Survival Through Environmental Education
Environmental Education Center
Grafton, Illinois

Mr. Ray E. Miller
Program Director
Environmental Education Center
P. O. Box 122
Pere Marquette State Park
Grafton, Illinois 62037

Description: This September to May program for students in grades K-12 introduces both teachers and students to various sites which demonstrate quality and polluted land, water, and air, with the aim of bringing out corrective methods to remedy situations of poor quality. Inservice training, teachers workshops, students preparation, and follow-up are included.

Materials: Curriculum guides are being written at present. The first unit, "Environmental Ideas for the Student," is now available. They may be obtained through ERIC, 1460 West Lane Avenue, Columbus, Ohio 43210.

Outdoor Education - Living a Learning Experience
Winnetka, Illinois

Mary Keegan
Winnetka Public Schools
Office of the Superintendent
520 Glendale Avenue
Winnetka, Illinois 60093

Description: This interdisciplinary approach for 5th and 6th graders for one week for each group of students has both pre- and post-session activities. Students examine wildlife, general environment, earth science, and aspects of new technology.

INDIANA

Operation Awareness
Tekoppel School
Owensville, Indiana

Mr. Terry Tichenor
Tekoppel School
RR #2
Owensville, Indiana 47665

Description: Operation Awareness aims to influence the behavior of 6th-, 7th-, and 8th-grade students toward better environmental quality with an outdoor classroom, which operates once a week for 3 weeks in the fall and 6 weeks in the spring. Each student selects his own course of study from such as the following: birds, insects, mammals, fish, amphibians, reptiles, plants, soils, weather, and pollution of lands and streams. In this program, students can also collect specimens in the outdoors, bring them in to class, and study them with the aid of a small research library in the science room. Inservice training, teachers workshops, student preparation, and follow-up are included.

Materials: There are plans to produce a curriculum guide this fall.

IOWA

Handicapped Children's Nature
Study Center
Muscatine-Scott County School System
Bettendorf, Iowa

Dr. Paul J. Staskey
Alpine Centre North
Bettendorf, Iowa 52722

Description: Operating throughout the year for all Special Education students, K-12, the facilities provide small garden sites, several study sites suited for different activities related to nature study, and a small structure overlooking a wooded area, with restroom accommodations for handicapped children. The trail is a four-foot concrete strip especially designed for wheelchairs and other appliances usually necessary to these children.

Specific activities include exploring the out-of-doors, hiking, cooking out, camping, planting trees and shrubs, outdoor safety, wildlife study, pollution, and water cycle study. Teacher inservice activities include environmental workshops, site orientation, development of an outdoor library, and development of teacher guides and specific lesson plans.

Materials: Unit I Observing Our Environment Through Our Senses and Unit II Mini Explorations.

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Handicapped Children's Nature
Study Center
Muscatine-Scott County School System
Davenport, Iowa

Mr. Charles J. Wester
Handicapped Children's Nature Study
Center
1523 South Fairmount Street
Davenport, Iowa 52802

Description: This 10-month program, with plans to be expanded to go the full year, serves approximately 1,000 handicapped students (mentally, physically, socially, emotionally, learning problems) from pre-school through high school ages. A major objective of the program is to provide these students with experience and knowledge that they can use outside their school classes on their own, with friends, and/or with their families. Specific activities include writing about observations, reading weather instruments, keeping weather charts, working together on conservation projects, calculating size of an area, distances, heights, and amounts, and studying air, soil, water, plants, animals, and man. Inservice training, teachers workshops, student preparation, and follow-up are included.

Materials: "Observing Our Environment Through Our Senses," "Mini Explorations of Our Environment," "Fall Walk," "Dike Hike," "Winter Wander," and "Spring Saunter."

Problems of Population and
Pollution (P^3)
University School
The University of Iowa
Iowa City, Iowa

Dr. Robert E. Yager
Head, Department of Science
The University of Iowa
Iowa City, Iowa 52240

Description: The central theme of the course is "the environment we want." It runs 18 weeks of each semester for students in grades 10-12. Each student is asked to contribute to this definition and then choose a problem area that seemed to be preventing our reaching this goal. Some specific activities have been investigation into phosphate content of Iowa rivers, particulate and gaseous pollution of Iowa City, and the effects of carbon monoxide on mice. Community action on the part of the students may be taken in the form of letter writing or appearances before action groups. The students discuss their concerns and the results of their investigations, finally expressing their plans for corrective measures. Student teachers and interns are encouraged to participate.

KANSAS

Environmental Education Project
Topeka Public Schools
Topeka, Kansas

Mr. Donald French
1601 Van Buren
Topeka, Kansas 66603

Description: This year-round program for students of grades 6 and 8-12 uses the school, a park, and local industries to investigate pollution, nature, industry, geology, and astronomy. A Title III project, it involves four program specialists, one paraprofessional, many community volunteers, 130 teachers, and about 5,000 students. Inservice training, teachers workshops, student preparation, and follow-up are a part of the program.

Project CLEAN
Shawnee Mission Public Schools
Shawnee Mission, Kansas

Mr. Ernie Kumpf, or
Dr. Leonard Molotsky
Shawnee Mission Public Schools
7235 Antioch
Shawnee Mission, Kansas 66207

Description: Project CLEAN (Cooperative Learning through Environmental Activities in Nature) operates for the full year for students in grades K-12 and undertakes activities in any area where environmental education can be integrated, including school, camp, and park. Inservice training, teachers workshops, student preparation, and follow-up are included.

Materials: Curriculum guides are being prepared.

Science and Survival
Shawnee Mission South High School
Shawnee Mission, Kansas

Mr. Richard G. Dawson
Shawnee Mission Environmental
Science Laboratory
5300 W. 107th
Shawnee Mission, Kansas 66207

Description: This is a one-semester course for juniors and seniors, emphasizing current environmental problems, citizens' action, and basic ecological concepts. Students plan and execute environmental communications projects in all media, evaluate visual and written and sound communications. Guest speakers come from agencies and industries and research institutions. Field trips are included in the activities. The course accommodates 135 students per year and is self-graded by the students within a pass-fail framework. The Population Bomb by Paul Ehrlich and Science and Survival by Barry Commoner are used as texts.

Materials: Twenty-page outline of the behavioral objectives of the course, plus schedule, communications, and tests, is available. $1.

KANSAS (Continued)

Shawnee Mission Environmental
Science Laboratory
Shawnee Mission Public Schools
Shawnee Mission, Kansas

Mr. Jerry P. Murray
Shawnee Mission Environmental
Science Laboratory
5800 West 107th
Shawnee Mission, Kansas 66207

Description: The 25-acre outdoor laboratory adjacent to the senior high school includes field, pond, stream and woodland. It is used most intensively by 10th-grade students. Small-group projects run from two days to five days in length, studying and comparing natural systems, plus experimental treatment of land. The program includes 4,000 students per year, with 20,000 student hours, primarily in a general biology course and in one-hour tours for 3,000 elementary students per year. There is a six-man staff of biology teachers. Tours are conducted for other district schools and youth groups. The site has intensive use by 400 students per day in fall and spring, less in winter. A prairie dog colony is being constructed, along with fertilizer, burning, mowing, and gardening experiments. Summer biology course, also. Weather station reports to Weather Bureau.

Materials: A 60-page operations manual, $1.50. Periodic newsletters available. Laboratory exercises for field are being written and tested for future publication.

KENTUCKY

Environmental Education
Paducah Public Schools
Paducah, Kentucky

Mr. James M. Major
Director of Environmental Education
Paducah Public Schools
Tenth and Clark Streets
P. O. Box 1137
Paducah, Kentucky 42001

Description: In operation September through May, with 11 weeks residence at TVA's Land Between the Lakes Youth Activities Station as well as many one-day field trips to L.B.L. and other areas, this program for students in grades 1-12 offers activities in wildlife study, social studies, plant ecology, math, language arts, creative writing, geology, orienteering, and contour mapping.

Teachers receive two 2-day training sessions each fall; high school students who participate as assistant field instructors also have a 2-day session. Student preparation and follow-up are part of the program.

Materials: Curriculum guide - "Environmental Education - Objectives and Field Activities," 3rd Edition $2.65, 4th Edition (365 pages) $5.

MARYLAND

Environmental Science
Baltimore Public Schools
Baltimore, Maryland

Mr. Elra M. Palmer
Supervisor of Science
Miss Dorothy H. Fader
Specialist in Science
1101 E. 33rd Street
Baltimore, Maryland 21218

Description: This 8-10 week program for grades 7-12 aims to present an interdisciplinary approach to urban ecology, emphasizing pollution.

Inservice training and teachers workshops as well as student preparation and follow-up activities are a part of the program.

Materials: Very tentative curriculum guides have been developed.

Frederick County Outdoor Schools
Frederick, Maryland

Mr. David A. Marple
Principal
Frederick County Outdoor School
Board of Education
115 East Church Street
Frederick, Maryland 21701

Description: All 6th- and 8th-grade students are included in the resident programs which operate from September to June. Specific activities include stream biology, forest ecology, compass, and map work. Inservice training and teachers workshops as well as student preparation and follow-up are included.

Materials: Frederick County Outdoor School, $2.

Outdoor School
Allegany County Board of Education
Cumberland, Maryland

Mr. Kendrick Y. Hodgdon
Supervisor of High Schools
Board of Education of Allegany County
108 Washington Street
Cumberland, Maryland 21502

Description: This program for all 6th-graders operates at the University of Maryland 4-H camp at Pleasant Valley in Garrett County. It is open for approximately seven weeks in the fall and five weeks in the spring. One week is scheduled for special education students. Specific activities include survival, weather, plant and wildlife studies, field math, compass and map studies, forestry, and marine biology. Student preparation and follow-up are part of the program.

Materials: Book for student and teacher use: Kekewh Vespers Tips.

MARYLAND (Continued)

State Department of Education Environmental Education Task Force
Maryland State Department of Education
Baltimore, Maryland

Dr. James W. Latham, Jr.
Maryland State Department of Education
600 Wyndhurst Avenue
Baltimore, Maryland 21210

Description: This K-adult plan for school, camp, and park is expected to result in guidelines for a comprehensive state program. Inservice training and teachers workshops as well as student preparation and follow-up will be included.

Steps to Successful Living and Environment - A Basis for Curriculum
Garrett County Resource Center
Oakland, Maryland

Mr. Paul S. Frank, Jr.
Director
Garrett County Resource Center
Board of Education
P. O. Box 73
Oakland, Maryland 21550

Description: "Steps to Successful Living" aims to increase the student's awareness of and wise use of natural resources and to develop his skills and interests in the natural environment and in outdoor recreation. "Environment - A Basis for Curriculum" works to promote "hands on" teaching in science, social studies, and vocational education and to improve the student's self-concept. Together the phases of the program cover 12 months; they involve students in grades K-12. Specific activities include earth sciences, biology, and "the worth of all work." They take place at Camp Hickory, a planetarium, and other sites in the county.

Inservice training and teachers workshops are part, as are student preparation and follow-ups.

Materials: Curriculum guides are being developed. Lessons are developed by a team, consisting of a resource teacher and a classroom teacher.

MASSACHUSETTS

Conservation Education
Massachusetts Department of Education
Boston, Massachusetts

Mr. Raymond L. Gehling, Jr.
Senior Supervisor of Conservation Education
Mr. Richard S. Short
Supervisor of Conservation Education
182 Tremont Street
Boston, Massachusetts 02111

Description: Conservation Education, running all year long and intended for grades K-13 and adult groups, aims to create environmentally literate and aware

citizens. Specific activities include science, nature, outdoor education, social studies, values, and civic participation. The program takes place in public schools and at outdoor sites. Inservice training, teacher workshops, student preparations and follow-up are part of the program.

Materials: Curriculum guides are being developed.

Environmental Education
Lincoln-Sudbury Regional High School
Sudbury, Massachusetts

Mr. Joseph Freitus
Director of Environmental Education
Lincoln-Sudbury Regional High School
Lincoln Road
Sudbury, Massachusetts 01776

Description: During the school year students in grades 9-12 may take the following courses:

1- Survival, a one-semester course offered to all classes and run by the departments of science, home economics, and industrial arts;
2- Environmental Education, a one-semester course for non-science, non-technical students, run by the departments of science, mathematics, and history;
3- Environmental Issues, a full-year course which examines all aspects of the environmental problem in greater depth than the above single-semester course, run by the departments of science, mathematics, and history; and
4- Conservation Corps, a full-year work program in conservation and conservation teaching, in which students work on a variety of local, state, and other conservation programs, with some students teaching at the elementary school level, offering conservation programs to these students. Inservice training, teachers workshops, student preparation, and follow-up are included.

Materials: Curriculum guides are being written.

Project Sweep
Stoneham Junior High School
Stoneham, Massachusetts

Mr. Howard T. Dimmick
149 Franklin Street
Stoneham, Massachusetts 02180

Description: This project brings to students of grades 7 to 12 an awareness of their environment and the contrast between urban and suburban environments. During the 10-month school year, activities are undertaken regarding nature study, pollution, visits to neighboring school systems, and developing teaching aids for an enriched elementary science program. Off school-ground sites include a private camp and the Cape Cod National Seashore Park.

Inservice training and teacher workshops as well as student preparation and follow-up activities are part of the program.

Materials: Curriculum guides are being prepared. Outdoor classrooms and a nature area at the school are being developed.

MICHIGAN

Man and His Environment: A Course
in Science for the Science-Shy
Portage Northern and Portage Central
Portage, Michigan

Mr. Ellsworth Starring, Instructor
School of Education
University of Michigan
Ann Arbor, Michigan 48104

Description: The ninth-grade course is involved with four basic questions over the school year:

What is an environment?
What has happened to the environments of this planet?
What is happening to the environments of this planet?
What will happen to the environments of this planet?

Several subquestions serve these major questions. Exercises are oriented to each of these questions, making the course a doing-inquiry laboratory experience with the environments of man. The laboratory experiences employ a specifically designed technique. Experiences are unified science exercises requiring activities involving many phases of science. The program includes preparation and follow-up for the students and is conducted near the school.

Materials: Curriculum guides have been developed.

MINNESOTA

Carver Park Environmental Education
Hopkins Independent School District 274
Minnetonka, Minnesota

Mr. E. Keith Wright
District Science Chairman
Hopkins West Junior High School
3830 Baker Road
Minnetonka, Minnesota 55343

Description: This extension of environmental education for K-12 students lasts from September to May and emphasizes earth science, wildlife, and pollution studies. As many as 60 students are taken by bus to the Carver Nature Center for a half or full day. One of the naturalists present is a Hopkins staff member in residence. Inservice training, teachers workshops, student preparation, and follow-up are a part of the program.

Environmental Education
St. Paul, Minnesota

Mr. John C. Miller
Environmental Consultant
Minnesota Department of Education
6th Capitol Square Building
St. Paul, Minnesota 55101

Description: This integrated interdisciplinary instructional program in environmental conservation education operates on a state-wide basis throughout

the year for PreK-12+ grade students. Inservice training, teachers workshops, student preparation, and follow-up are part of this program.

Materials: Curriculum guides have been developed and are being revised now.

Environmental Studies
Independent School District #271
Bloomington, Minnesota

Mr. Orville Ruud
Science Coordinator
Bloomington Schools
10025 Penn Avenue South
Bloomington, Minnesota 55431

Description: This year-round program for students in grades K-6 is based on environmental activities, which are units. Each unit is a specific study of the environment to be used in science, social studies, or language arts.

Materials: "Environmental Studies," K, 1, 2, 3, 4, 5, and 6. Not for sale; limited numbers of copies could be exchanged.

Minnesota State Environmental
Curriculum
St. Paul, Minnesota

Mr. John Miller
Consultant in Environmental Education
Capitol Square Building
St. Paul, Minnesota 55101

Description: This curriculum provides teachers with a selection of integrated units in environmental education. The units cover most facets of environmental education and are not sequential. They will cover, for instance, wildlife, earth science, marine biology, pollution, and safety in grades K-12, with the teacher making the decision on how much time will be spent.

Several inservice teacher training and workshop centers have been established in Minneapolis. At this date only trial materials (13) for preparation and follow-up have been developed. They have been trial tested and will be rewritten this year.

MISSISSIPPI

Warren Central Forest Laboratory
Warren Central High School
Vicksburg, Mississippi

Mrs. Audrey Kinzer
Route 1
Vicksburg, Mississippi

Description: Students in grades 7-12 use this program of study of wildlife, forests, field biology, landscape, and art. Inservice training, teachers workshops, student preparation, and follow-up are included.

MISSOURI

Environmental Ecological Education Program
Parkway School District
Chesterfield, Missouri

Parkway School District
455 North Woods Mill Road
Chesterfield, Missouri 63017

Description: This 12-month program for students in grades K-12 (and adults) utilizes local environmental resources as an educational resource for an interdisciplinary, multi-media approach to environmental education. Inservice training and teachers workshops as well as student preparation and follow-up are included.

Materials: A curriculum guide for K-6 titled Environmental Ecological Education Program.

Kansas City Zoological Gardens
Kansas City, Missouri

Mr. Harry L. Gregory
Education Director
Kansas City Zoo
Swope Park
Kansas City, Missouri 64132

Description: This all year program for all levels of education focuses on developing an understanding of the relationship of animals to their environment and to man. Wildlife studies are undertaken, emphasizing ecological relationships and classification, using the zoological gardens of the city park. Teacher workshops and inservice teacher training as well as student preparation and follow-up are a part of the program.

Materials: Curriculum guides have been prepared: Animal Kingdoms - Vertebrates, Amphibians and Reptiles, Birds, Mammals, African Animals, Endangered Animals, and Camouflage. Free to teachers. Additional guides are being prepared.

MISSOURI (Continued)

Natural Science Resident Camp
Parks and Recreation Department
Kansas City, Missouri

Mr. Richard G. Dawson
Parks and Recreation Department
5600 E. Gregory Blvd.
Kansas City, Missouri 64132

Description: The Camp handles three 10-day summer resident camp sessions with a total of 150 boys and girls, ages 10-15. The program includes staff-led field community studies, individual camper-chosen ecological research investigations in lab or field, films and speakers from local scientific groups, plus camping activities. The 350-acre site, wooded hill with stream and lake, also includes two day camps and another general camp program. It aims at firsthand experience to give appreciation of natural interactions. Equipment includes a 16-inch reflector telescope, laboratory building, and public nature center nearby. The camp is staffed by teachers, college students, and high school assistants and draws from the Metropolitan Kansas City area. Students pay $40 for the 10-day session.

Materials: Project Ideas in Natural History, 25 pages, $1.
Field Guide to Swope Park, 75 pages, $1.

NEBRASKA

Environmental Field Studies
OSACS Science Center
Omaha, Nebraska

Mr. Larry Hardt
5606 Western Avenue
Omaha, Nebraska

Description: This 8-week summer session for grades 7-10 emphasizes activities in such areas as wildlife study, earth science, and pollution. Various sites are used, including several within a 60-mile radius of the center, for forest, pond, river, and other studies.

NEVADA

Verdi Environmental Education Center
Verdi Environmental Education

Mr. Brian Wise
Washoe County School Administration Offices
425 Ninth Street
Reno, Nevada 89501

Description: Conducted for K-6 elementary students at the Verdi School and other elementary schools during the school year, this program covers a wide range of topics, including pollution, earth science, aquatic and desert life.

NEVADA (Continued)

Teachers receive training in service and through workshops; student preparation and follow-up activities are included.

Materials: Contact Mr. Wise.

NEW JERSEY

Applied Life Science
Park Ridge High School
Park Ridge, New Jersey

Mr. M. Zirkes
Chairman of Science
Park Ridge High School
Park Ridge, New Jersey 07656

Description: Applied Life Science is an activity-oriented approach to a study of the biological and environmental sciences. It is intended for those students who have not taken biology. Modern environmental problems, such as air and water pollution, are studied with an emphasis on laboratory and field work. The students are exposed to modern biological laboratory techniques currently in use, for example, blood typing and biological staining.

Extensive use is made of the surrounding community.

This is a one-year course open to 10th, 11th, and 12th-grades.

Materials: A Curriculum Guide, "Applied Life Sciences," is available.

The Conservation and Environmental Studies Center
Whitesbog, New Jersey

Dr. V. Eugene Vivian, Director
Box 2230 R. D. 2
Browns Mills, New Jersey 08015

Description: The Conservation and Environmental Studies Center (CESC) presents a program which (1) assists elementary and secondary schools develop environmental studies in their curricula via an interdisciplinary approach and (2) is developing a model center for environmental science, utilizing the assistance of local industry and state and federal agencies that are concerned with the environment.

CESC originated as a Title III project. Now in its fifth year of operation, funds are provided primarily by participating local school districts, and small federal or state grants are also awarded to the center.

The program consists of (1) planning and demonstrations with classes from 155 cooperating school districts, (2) operating a leased resident center for 30 weeks in each school year with 85 to 95 children in attendance each week from grades 5 to 10 as designated by cooperating districts, (3) frequent teacher

training sessions from 1 to 30 days in duration, (4) curriculum planning and demonstrations on or near school-building sites of each of the cooperating districts, and other environmental education activities.

Materials: The Center has an extensive list of student and teacher guides for such topics as marine biology, land use, forestry, water pollution, history, map study, urban environment, etc. Write for Material Request Form.

Environmental Field Laboratory
Paramus Public Schools
Paramus, New Jersey

Mr. Robert De Blasi
Science Consultant, K-9
Educational Development Center
E 36 Midland Avenue
Paramus, New Jersey 07652

Description: During the school year the Environmental Field Laboratory introduces students in grades 2, 3, and 6 to ecology, geology, wildlife, and other aspects of the environment, using a natural site of seven acres in the center of the community. Inservice training, teachers workshops, student preparation, and follow-up are involved.

Materials: Curriculum guides are avaiable on an on-loan basis. An Environmental Field Laboratory Guide is also available.

NEW YORK

EPICS - Environmental Problems for Individually Centered Studies
Public Schools of the Tarrytowns

Mr. Gilbert A. Zinn
Liasion for Environmental Education
Washington Irving JHS
Tarrytown, New York 10591

Description: This program for students in grades 5 to 8 is designed to provide the interested students with the opportunity to utilize skills and processes of science to help investigate problems of concern to the community. The yearly program operates for as long as an individual student maintains interest and activity. Areas of particular emphasis are: pollution, newspaper-recycling, and wildlife conservation.

Materials: Outlines describing the mechanism of the program; available at no charge.

Environmental Science
Glen Cove High School
Glen Cove, New York

Mr. David I. Kronenberg
Glen Cove High School
Dosoris Lane
Glen Cove, New York 11542

Description: This study of the environment of the city of Glen Cove involves students of grades 11 and 12 for seven periods a week over 40 weeks. The situation is a cove atop a terminal moraine not more than 1,000 yards from Long Island Sound. Specific activities for this year are to include geology (history of Long Island, development of soil and water stores, current problems involving these), meteorology (air movement and quality, current problems), and biology (both land and marine and their interaction, including the effect of man). Student preparation and follow-up are a part of the program.

Marine Science
Shelter Island High School
Shelter Island, New York

Mr. Gene P. Kinghan
Science Department Chairman
Shelter Island High School
Shelter Island, New York 11964

Description: The marine science course is open to students who have successfully completed a year of high school biology. The course begins in the summer months with field trips, basically for collections which are then evaluated throughout the year. The course is centered around a biological theme with the concepts of chemical and physical oceanography woven in. A full Regents credit is given upon completion.

An in-depth study of the marine organisms is made, based upon the foundations received in biology the previous year. Organisms are maintained and studied in the school's marine aquaria (six in all), and they are reported on by graphing techniques. This enables the students to see the associations of the marine habitat's physical features to the biotic factors.

The group gives class talks twice a year on subjects of interest to the indivudual giving the lecture. Each member of the class must also do an original project on some facet of the marine sciences.

The school maintains memberships in almost every group that has an interest in the science, such as the American Littoral Society and the International Oceanographic Association. Most of the students take out their own memberships in such societies.

Besides collection and evaluation field trips, the group also travels to colleges and institutions that are engaged in the subject to get firsthand information and to see the scientist in his niche.

Materials: Curriculum guides have been developed. Audio-visual materials are in preparation.

Marine Science Discoveries
Shelter Island High School
Shelter Island, New York

Mr. Gene P. Kinghan
Project Coordinator
Shelter Island High School
Shelter Island, New York 11964

Description: Essentially the program is a survey of the marine sciences with emphasis on the biological and ecological aspects. It is open to students who have completed 7th, 8th, or 9th grades. The program runs for either the month of July or August and, because of space limitations, enrollment is limited to the first 25 students who apply.

Students collect, identify, and maintain, where possible, the local marine organisms from most of the major phyla. Films, field trips, and class lectures are integrated into the program.

An introductory test is given to evaluate the prior knowledge of the student, and this is followed by weekly tests on films, lectures, and field trips. A comprehensive final examination includes identification of organisms as well as questions on the above sources of information.

Besides local field trips, there are trips to the Sport Fishing Industry at Montauk, Long Island, and to the Marine Aquarium at Coney Island, New York.

Materials: Curriculum guides have been developed.

Wave Hill/Fordham University/Open Classroom Environmental Education Program
Wave Hill Center for Environmental Studies
Bronx, New York

Dr. Joseph D. Hassett
Director of Environmental Education
Wave Hill Center for Environmental Studies
675 West 252nd Street
Bronx, New York 10471

Description: The Wave Hill program operates from September 1 to July 31, with fall, spring, and summer sessions, for students in grades 1-6. Classroom and school neighborhood are used. Field trips through the Interpretive Nature Studies Program are arranged for interested teachers of the program. To accomplish this latter, teacher-training workshops are run at Wave Hill, and are accredited by Fordham University and certified by the N.Y.C. Board of Education. There is also an inservice program. Follow-up and preparation are incorporated into the program; a master teacher assists by visiting the classroom; in addition, presite, onsite, and postsite instruction is given to participating teachers.

Materials: A book, Open Education: Alternatives Within Our Tradition, is by Dr. Hassett and Arline Weisberg, formerly master teacher and assistant to Dr. Hassett, is to be published by Prentice-Hall in early 1972.

NORTH CAROLINA

Environmental Ecological Education
Burke County Public Schools
Morganton, North Carolina

Mr. Earl C. Whitener
Title III Project Director
Burke County Public Schools
P. O. Drawer 989
Morganton, North Carolina 28655

Description: The students are to test for pollution in particular areas, letting them contrast what they have seen with natural areas, in a full year program for K-12 students. Inservice training and teachers workshops as well as student preparation and follow-up are included.

Environmental Education Center
ESEA, Title III
Madison County Public Schools
Oteen, North Carolina

Dr. Larry Liggett
Project Director
Environmental Education Center
13 Veterans Drive
Oteen, North Carolina 28805

Description: This 12-month program for elementary and secondary school students develops an awareness of the unique mountain environment of the area. Specific activities include general studies in ecological and environmental education. Activity sites include the school, a nearby park, and the Western Carolina University Extension Center. Inservice training, teachers workshops, student preparation, and follow-up are part of the program.

Environmental Science Study
Curriculum (ESSC)
P. S. Jones Junior High School
Washington, North Carolina

Mr. William P. Moffitt, III
ESEA Title III Director
P. S. Jones Junior High School
West Ninth Street
Washington, North Carolina 27889

Description: This program for 8th- and 9th-grade students is in operation for the full year, though the courses are offered only during the regular school year. An ESEA Title III project, funded by the state of North Carolina, the program curriculum is designed to allow students to choose any three of the following six mini-courses, each twelve weeks long: Introduction to Ecosystems, Pollution, North Carolina's Natural Resources, The Earth's Natural Resources, Man and His Environment (Social, Political, Economic, and Psychological), and Independent Study. The courses are taught in the school, which has in addition an outdoor laboratory on a tree farm about eight miles away. Inservice training and teachers workshops are included as is student preparation and follow-up.

Materials: Ready now, will be available for distribution later.

Man and Environment
East Mecklenburg Senior High
Charlotte, North Carolina 28212

Mr. Stephen L. Canipe
East Mecklenburg Senior High
6300 Monroe Road
Charlotte, North Carolina 28212

Description: To instill an appreciation and knowledge of all the ways that man interacts with his environment into students, this program is held over 9 months of the regular school year for those in grades 11 and 12, with biology a prerequisite. The course looks at man's interaction in basically four ways: (1) Historical - how the environment has influenced man through wars, settlement, crops, etc.; (2) Literary - how man sees his environment as reflected in the way he writes about it; (3) Environmental - the way man has changed his environment; and (4) Urban - the way man interacts with others.

Specific activities include: field trips, pollution clean-ups around school, guest speaking in feeder schools (junior high and elementary schools), and sponsoring community action groups (seminars enlist aid for particular projects).

Materials: "Man and Environment" extensive bibliography, project suggestions, transparency masters. Course outline: $2.

Man and His Environment
Charlotte-Mecklenburg Schools
Charlotte, North Carolina

Mr. Charles T. Vizzini
Coordinator
Outdoor Laboratory Program
Charlotte-Mecklenburg Schools
P. O. Box 149
Charlotte, North Carolina 28201

Description: This summer school program, summer environmental course, is an environmental tour for 28+ days. Each year the students, rising 10th-12th graders, cover a different part of the United States, with Canada and Mexico included when possible. Specific activities undertaken are ecology; pollution abatement programs, urban renewal studies; natural history; comparative studies of city, state, and national environmental programs; local history; and culture and customs.

Inservice training and teacher workshops are a part of the Outdoor Laboratory Program. Pretrip planning and sessions are an integral part of the program, as is a follow-up session.

Materials: Itineraries and Handbooks ("Fourth Annual Environmental Tour") may still be available.

NORTH CAROLINA (Continued)

Outdoor Laboratory Program
Independence Outdoor Laboratory
Charlotte, North Carolina

Mr. Charles Vizzini
Coordinator
1967 Patriot Drive
Charlotte, North Carolina 28212

Description: The Outdoor Laboratory Program is a part of the proposed environmental education program. This program will develop three additional laboratories utilizing similar program material. One phase of the program will involve horticulture classes in developing shrubs to be used in landscaping. Additional units on the history of the community are also being developed. The overall program is not being restricted to science.

Outdoor Laboratory field trip program material is available to the teacher upon request. The packet of material (consisting of: Theme-Understanding Check List, Development of Theme, Continuing Activities, Reference Listing and Information Map) is delivered by courier at least three weeks prior to a Program field trip. After the teacher has previewed the material, the check list is returned with items checked for special emphasis, one week prior to orientation (presented by the coordinator). The one hour field trip is conducted by the coordinator and usually two or three volunteer student guides (student guides have been previously trained for specific grade levels). After the field trip the coordinator returns to the classroom for a follow-up session. Each grade level visits a different part of the outdoor laboratory to alleviate repetition. The horticulture course is an integral part of the outdoor laboratory.

OHIO

Life Science Investigation:
Man and the Environment
Educational Research Council of America
Cleveland, Ohio

Dr. Victor M. Showalter
Educational Research Council of America
Rockefeller Building
Cleveland, Ohio 44112

Description: ERC is a consortium of many school districts, and therefore the program operates at many schools. The program fosters real and open inquiry regarding living things and the environment, so that rational action may be taken. Students involved are 7th-graders who, over the whole school year, get into such activities as open inquiry, naturalistic and experimental studies, role playing, and gaming. Several simulation games are a part: The Pollution Game, Planet Management, Thermal Pollution, The Redwoods Controversy, The Mouse and the Maze. Inservice training, teachers workshops, and student preparation and follow-up are included.

Materials: A non-text has been published by Houghton Mifflin Company.

OKLAHOMA

Environmental Awareness
Ada City Schools
Ada, Oklahoma

Mr. Vernon Harmon, Director
321 W. Eighteenth
Ada, Oklahoma 74820

Description: This 4-week program for students in grades 6-8 uses a camp to to introduce the students to aspects of pollution, earth science, outdoor safety, recreation, and wildlife. Teachers workshops, student preparation, and follow-up are included.

Materials: Curriculum guides are being developed.

Outdoor Education
Banner School
Guthrie, Oklahoma

Mrs. Dorothy Ireton
Program Director
Route 2, Box 141
Guthrie, Oklahoma 73044

Description: In relating the natural and man-made surroundings to the total human environment, this program for 6th-graders has operated specifically from October 11-15, 1971, with continuous post-session use. Children from all the sixth grades in Logan County, Oklahoma, will attend and be instructed by persons provided by the Logan County Conservation District, Oklahoma State University Extension Service, State Wildlife Service, National Park System, and the State Department of Education. Emphasis is placed on soil and water conservation, wildlife study, forestry, grass and pond ecosystems, geology, esthetics, and national parks. There was an Environmental Workshop on September 27, 1971, for teachers and interested persons.

Materials: "Environmental Education Program for Elementary Schools," $2.

OREGON

Outdoor Education
Washington County School
and District #48
Hillsboro, Oregon 97123

Mr. Ray Haag
Director
Washington County IED
172 South First
Hillsboro, Oregon 97123

Description: The program is for grades 1-6 to make use of outdoor learning situations which provide opportunities not available in classrooms. Program for grades 1-4 is sporadic but includes visits to several kinds of farms.

The grade 5 program culminates in a one-day field experience; this is preceded by and followed by appropriate planning activities.

Grade 6 students and their teachers spend a week living in a camp (24-hour resident Outdoor School) where they study with students from other schools. All aspects of the regular curriculum - language arts, social studies, math, science, art, physical education - are incorporated into the curriculum. Specialists are located at the camp sites to help teach about local materials or sites; these specialists are aided by youth counselors in the study areas of wildlife, plants, water, marine biology, and soil. Classes are held for 8 weeks in the fall, 9 weeks in the spring; there is extensive preparation and follow-through (from the outdoor experience) in the regular classroom.

The program includes inservice training and teacher workshops.

Materials: A field book and other descriptive information are available.

PENNSYLVANIA

Tayamentasachta
Center for Environmental Studies
Greencastle, Pennsylvania

Mr. Fred C. Kaley
Project Director
370 S. Ridge Avenue
Greencastle, Pennsylvania 17225

Description: Operating out of the Greencastle-Antrim School District, this project aims to make students aware of various aspects of environmental relationships through outdoor experiences. These will consist of ecological studies, timber resource management, field biology, fishery-related studies, and vocational agriculture crop studies.

Inservice training and teachers workshops as well as student preparation and follow-up activities are part of the 12-month program, which takes place at a farm close to the school. The project is aimed primarily at students in grades 1 to 10.

Materials: Curriculum materials will be developed throughout the year.

Mr. Harold D. Yoder
Science Supervisor
Altoona Area School District
Lincoln Building
1415 7th Avenue
Altoona, Pennsylvania 16603

Description: This summer program for the educationally disadvantaged operates at a camp for three weeks and involves students in grades 1-3, 4-6, and 7-9. Specific activities include wildlife study, earth science, pollution, safety outdoors, nature walks, collecting, mounting of specimens, identifying by means of microscopes (and hand lenses and references), astronomy, and meteorology. Inservice training and teachers workshops, as well as student preparation and follow-up are part of the program.

SOUTH CAROLINA

An Environmental Ecological Education Center
Anderson School District No. 5
Anderson, South Carolina

Mr. Ryan R. Faulkenberry
Project Director
Environmental Ecological Education Center
P. O. Box 439
Anderson, South Carolina 29621

Description: The Center operates all year, and the program for students in grades K-12 works to create appreciation of and show need for environmental management of all human and natural resources. Specific activities at the special 45-acre outdoor laboratory are: maring biology, plant study, and social studies. Inservice training and teachers workshops as well are preparation and follow-up are a part.

People and Their Environment
South Carolina Department of Education
Columbia, South Carolina

Mr. John Y. Jackson
Conservation Consultant
801 Rutledge Building
Columbia, South Carolina 29201

Description: "People and Their Environment" guides are designed to make environmental education an integral part of the total curriculum in grades K-12. The guides can be used throughout the school year. There is a separate guide for each of the following areas: 1-3, 4-6, Science 7-9, Biology, Social Studies 7-9, Social Studies 9-12, Home Economics 9-12, and Outdoor Laboratory 1-12. The guides have lessons on air and water pollution, wildlife - both plants and animals, outdoor safety, oceans, resource use, insects, soil, etc. There are more than 400 lessons in the set. Lessons are designed for use in

the classroom and on the school site. Inservice training and teacher workshops are conducted by the state conservation education consultant.

Materials: The curriculum "People and Their Environment" slides are available from the J. G. Ferguson Publishing Company, 6 North Michigan Avenue, Chicago, Illinois 60602, at a cost of $3.95 per guide or $3.40 for three or more guides and $27.20 per set.

TENNESSEE

Cooperative Science Education Center
for In-Service Education
Cooperative Education Center
Oak Ridge, Tennessee

Mr. Peter Cohan
Executive Director
Cooperative Science Education Center
Oak Ridge, Tennessee 27830

Description: The Center schedules environmental workshops, sessions with "Enviro County," environmental programs for civic clubs, staff development programs, and inservice and preservice programs. It operates the year round and works with environmental education programs for K-12 students. The facilities are located at Oak Ridge, Tennessee, and are part of the Oak Ridge National Laboratories. Inservice training and teachers workshops as well as preparation and follow-up are part of the program.

Materials: Curriculum guides are available.

Environmental Science
Metro Board of Education
Nashville, Tennessee

Lib Roller
Metro Board of Education
2601 Bransford Avenue
Nashville, Tennessee 37204

Description: On school sites 4th- and 5th-graders set up environmental study areas which relate the natural community to the man-made; a three-day, year-round Nature Center day camp is also used by 5th-graders, with 6th-graders having a weekend at the school camp. Specific activities include: the natural and physical sciences, nature crafts, math concepts, and map and compass use. Inservice training, teachers workshops, student preparation, and follow-up are part of the program.

Materials: Outdoor Education Manual, K-6, covering all curriculum areas, $1.50; EQ Manual, K-6, $1; Nature Center Trail Manual, $1.

TEXAS

Austin Natural Science Center
Austin, Texas

Miss Sandra H. Foster
Director
Austin Natural Science Center
401 Deep Eddy Avenue
Austin, Texas 78703

Description: The Center offers natural science classes; exhibits that travel to schools by appointment; tours for groups of school children, collections of live native reptiles, mammals, birds and fish; and information for the public on all phases of local natural history. The classes, offered from first grade to adult vary in coverage according to grade. Different fields of natural science include backpacking and oceanography for junior and senior high school. Sessions during fall and spring are 9 weeks each. In summer 4 2-week sessions are offered. Inservice training and teachers workshops are included, preparation and follow-up activities are still limited.

Materials: Curriculum guides should be available within the year.

Environmental Education
Austin Independent School District
Austin, Texas

M. T. McLean
Environmental Education Coordinator
Austin Independent School District
6100 N. Guadalupe
Austin, Texas 78752

Description: Classroom presentations, study trips, and community projects throughout the year focus the attention of students of all the grade levels on natural resources and processes. Inservice training and teacher workshops, as well as student preparation and follow-up are included.

Field Ecology
Dallas Public School

Mr. Jesse M. Harris
Dallas Public School
3700 Ross Avenue
Dallas, Texas 75204

Description: The field ecology course for advanced biology students (11th- and 12th-grade) was introduced into the curriculum to fill a growing need for environmental study as it related to biology. The first year of the course was completed at the end of the school year 1969-1970. The ecological approach of this course is designed to enable the students to move out of the classroom and into the field and observe nature in all her many facets. A selection of a central location for these activities allows much greater

use to be made of community resources. The Museum of Natural History was chosen as the basic headquarters for the classes, and students from 20 high schools around the city were selected to form the classes. Each student was in his home school one half day and in the field ecology course the other half day. Many field trips with overnight stays were conducted. The teacher and the Museum staff cooperatively conduct classes both in and out of the Museum. Other sites for the program activities are near the school, at a camp, and in a park.

Outdoor Education
Tyler Public School
Tyler, Texas

Mr. C. S. Story
201 East 11th Street
Austin, Texas 78711

Description: Outdoor education is available to every 5th- and 6th-grade boy and girl in the elementary schools of Tyler. The 5th-graders are in camp two days and one night, and the 6th-graders, three days and two nights. The education actually begins a few weeks before the outdoor experience as teacher-pupil planning takes shape, and extends beyond the camp time into the evaluation afterward.

Along with Camp Tyler, a popular type of experience is the school farm. Children learn about and care for farm animals, observe good practices in land management, and get some appreciations for rural living.

UTAH

Field Studies in Science
Davis School District
Farmington, Utah

Mr. Allen L. Tuft
Science Supervisor
Davis School District
Farmington, Utah 84025

Description: The program emphasizes the biology and geology of the area during the six-week session for students of grades 8-12. Field trips are taken to local areas of interest and to the mountains and desert in the area. Student preparations and follow-up are part of the program.

WASHINGTON

Conservation Education
Bellevue Public Schools
Bellevue, Washington

Mr. Davis W. Faith
Coordinator for Conservation Education
310-102 NE
Bellevue, Washington 98004

Description: This nine-month program offers outdoor schooling for 5th-grade students, indistrict programs, and other, all principally at the intermediate level but expanding rapidly. Specific activities include wildlife study, earth science, marine biology, pollution, safety outdoors, and all the basic disciplines (math, science, social studies, language arts, etc.) as they pertain to the environment and solutions of environmental problems. Inservice training and teachers workshops as well as student preparation and follow-up are included.

Materials: Write to: Instructional Materials Dept., Bellevue Public Schools, Bellevue, Washington 98004, for resource file for Environmental Education and High School Student Leader Guide, $7.50.

Environmental Education
Shoreline School District
Seattle, Washington

Mr. R. C. Sacksteder
Director of Instructional Materials
Shoreline School District
N. E. 158th and 20th N.E.
Seattle, Washington 98155

Description: The Environmental Education program is comprehensive K-12. Almost all of the District's 19 elementary schools participated, with the 5th- and 6th-graders in 2½-day environmental education experiences at either Moran State Park on Orcas Island or Warm Beach Camp at the mouth of the Stillaguamish River. Science classes in the secondary schools utilized the Whidbey Island environmental education site, as did other subject areas following the interdisciplinary approach to environmental education.

The elementary schools likewise use the immediate school grounds and the adjacent park facilities for environmental experiences at all levels. Particular curriculum guides have been developed for this purpose. At this time the programs are becoming more concrete through the writing of specific objectives for each grade level and through the writing of planned use catalogues for outdoor sites.

The school curriculum provides the framework for an interdisciplinary approach to the subject. The ecological conscience is explored in not only science but the ecology in literature, psychology and sociology, social studies and art. The latter studies are most comprehensively developed in the secondary schools.

Inservice training and teacher workshops are part of the program, as are preparation and follow-up.

Materials: Curriculum guides have been developed.

WISCONSIN

Colonial Park Program
Racine Ecological Society
Racine, Wisconsin

Mr. Fred Zindars
Unified School District #1
Racine, Wisconsin 53404

Description: This spring-to-fall program for K-12 students, with a K-6 emphasis, undertakes activities in the areas of wildlife, earth science, and pollution. The Racine Ecological Society works in conjunction with the Director of Parks and Recreation, The Unified School District of Racine County, and people of the area. A naturalist is hired to coordinate tours in the Colonial Park area, where the total emphasis is on natural ecology. Student preparation and follow-up are included only where the Unified School classes participate.

Ecology
Manitowoc, Wisconsin

Mr. Howard Wilsmann
Curriculum Center
Adams School
1024 South 12th Street
Manitowoc, Wisconsin 54420

Description: A concern for our environment is developed during the year for students in grades K-6. Ecological concepts are developed for each grade level to be used with existing science and social studies programs. Concepts are introduced in the classroom, but practical applications are made on the school grounds and in the School Forest. Inservice training and teachers workshops, preparation and follow-up, are included.

The School Forest consists of 2,566 acres with a quarter mile of Lake Michigan frontage and has complete camping facilities. Sixth-graders camp and take courses, culminating with ecology; camping is done on a weekly basis in both fall and spring. Students in grades 1-5 visit on a day basis at least once during the school year, with 5th-graders being responsible for the tree planting program. Biology classes also spend a day at the Forest.

Materials: Ecology K-6.

Environmental Science
Edgerton Local School
Edgerton, Wisconsin

Mr. John Conrath, Superintendent
Edgerton Local Schools
P. O. Box 112
Edgertown, Wisconsin 53534

Description: Primarily academic outdoor-laboratory-oriented, this program runs for 5 hours a week during the fall academic year for 9th-grade students. The activities are designed to show relationships between earth science and biological science. Besides work in the school various field studies are used. There are no inservice training programs or teachers workshops.

Materials: Being prepared for printing.

Geo-Ecology of Wisconsin
James Madison Memorial High School
Madison, Wisconsin

Mr. Marvin Meissen
Dept. of Curriculum Development
Madison Public Schools
545 W. Dayton Street
Madison, Wisconsin 53701

Description: This short (14 week, non-credit elective for students of grades 10-12 extends an appreciation of the ecology of Wisconsin through the geologic history of Wisconsin. Major sites are nearby fields.

Materials: Short Course in Geology and Ecology, $1.

Guide to Environmental Education:
Conservation of Natural Resources
Madison Public Schools
Madison, Wisconsin

Mr. Marvin Meissen
Dept. of Curriculum Development
Madison Public Schools
P. O. Box 2139
545 W. Dayton Street
Madison, Wisconsin 53701

Description: The program presents an approach for teachers of grades K-6 to incorporate conservation of natural resources into their instructing. The sections of the program are soil, water, minerals, wildlife, plants, and science, historical, or recreational areas. Cherokee Marsh, the School Forest, and city parks and greenways are used. Naturalists work with the teachers, and preparation and follow-up are part of the program.

Materials: Guide to Environmental Education: Conservation of Natural Resources, $4.

Interdiscipline Environmental Education in the Curriculum
Barron Area Schools
Barron, Wisconsin

Mr. William D. Rogers
Elementary Coordinator, Barron Area Schools
135 W. River Avenue
Barron, Wisconsin 54812

Description: This K-12 program aims at identifying and developing environmental areas of the total curriculum and providing resource and supplemental material that will enrich the basic environmental curriculum. It runs for 9½ months at the school and a nearby camp.

Specific activities are identified in the total curriculum as either basic course work or enrichment activities in classes K-12. Examples are: Primary level - series of field trips to develop ecological awareness of the meediate community and its problems; Intermediate level - outdoor camp visit twice a year, planting of trees and shrubbery in the district, and classroom activities studying specific industries and communities within the school district; Junior High School - in the earth and natural sciences are activities related to demography and other areas; Senior High level - under mod scheduling, experience in areas such as wildlife management and landscaping.

Inservice training for teachers is conducted during the summer months and twice during the year as a basic requirement. Objectives, their implementation, and much follow-up is evaluated by an advisory council. The core of the program is set up under a community advisory council, consisting of students, teachers, city officials, and lay people at large who are concerned about environmental problems of the district. This group assesses needs and works with the program leaders to develop projects and activities that totally satisfy the area. After projects are completed the council evaluates and makes recommendations for the future.

Materials: Curriculum guides are being developed, will identify the environmental curriculum in all basic texts that many school districts use and will show activities that can be used, expanding from these texts.

K-12 Environmental Education Curriculum
Forest Park Environmental Education Center
Franklin, Wisconsin

Mr. A. L. Block
Director of Instruction
Franklin Public Schools
7380 South North Cape Road
Franklin, Wisconsin 53132

Description: The program is a K-12 Curriculum guide-descriptive guide of facilities and program at Forest Park Environmental Education Center. All areas of environmental studies curriculum are involved in the year-round program for grades K-12. Inservice training and teachers workshops as well as student preparation and follow-up are a part.

program for grades K-12. Inservice training and teachers workshops as well as student preparation and follow-up are a part.

Materials: A program summary will be mailed upon request.

K-12 Outdoor Education
Merrill Area Public Schools
Merrill, Wisconsin

Mr. Al Curtis
Senior High School
Merrill, Wisconsin 54452

Description: To promote conservation ecology, this program for K-12 students operates throughout the school year and part of the summer. It introduces students to aspects of wildlife, earth science, pollution, safety, history, mathematics, and similar activities. Inservice training, teachers workshops, student preparation, and follow-up are part of the program.

Materials: Curriculum guides are available.

Madison School Forest
Madison Public Schools
Madison, Wisconsin

Mr. Paul Olson
Midvale Elementary School
502 Caromar Drive
Madison, Wisconsin 53711

Description: This year-round program for grades K-12 takes place at the School Forest and Cherokee Marsh. The aim is to increase enjoyment of the out-of-doors and elicit responsible attitudes toward natural resource conservation. Specific activities include study of wildlife, plant succession, wetlands, sedge meadows, prairies, an Indian mound, and geology. The school forest offers a two-week inservice course for instructors.

Materials: Madison School Forest, $3; a teachers' resource book, ecological in nature, plus an identification Guide of leaf prints and descriptions of 158 plant species. Madison School Forest Tour 1 - The Trees, $1. Three Layers of Green in the Madison School Forest, Grades 5-6; 2 filmstrips and Guidebook, $15; Guidebook, $1. Madison School Forest, grades 7-8; 2 filmstrips and Guidebook, $15; Guidebook $1. Cherokee Marsh - A Wetland to Cherish, Guidebook, $1. Guidebooks are teaching aides, valuable for those proposing or implementing similar environments.

Master Plan for Environmental Education
Milwaukee Public Schools
Milwaukee, Wisconsin

Miss Nancy R. Noeske
Environmental Education Coordinator
Milwaukee Public Schools
P. O. Drawer 10K
Milwaukee, Wisconsin 53201

Description: This year-round program has just begun, but it is intended ultimately to introduce into the entire Milwaukee Public School system an extensive K-12 environmental curriculum. Eight components from the major blocks and the first Teacher Leadership Workshop were held this summer. The three-week workshop consisted of: (1) a two-week session on subject matter, indoor and outdoor laboratory experiences, and curriculum planning experiences, and (2) a one-week session on urban problems and their solutions. After this a Curriculum Development Workshop will be held and in the fall a Television Inservice Workshop for training teachers. Of the remaining five components (Open End Grant Program, Field Trip Pilot Program, Instrumentation Program, Exceptional Education (Handicapped Program), and the Demonstration Farm Pilot Program), the Open-End Grant might receive greatest notice for providing funds for student action projects.

The program is aiming for ESEA Title III support, part of which has already been granted on the basis of a preliminary proposal.

Materials: Curriculum guides are being developed.

Outdoor-Recreation Vocations
Merrill Area Public Schools
Merrill, Wisconsin

Mr. Al Curtis
Senior High School
Polk Street
Merrill, Wisconsin 54452

Description: Promoting vocational skills in related outdoor-recreational areas is the focus of this program for students of upper primary to grade 12. Held during parts of the entire year, the program covers resort and park grounds, care, forest management, outdoor recreation, food preparation, resort housekeeping, environmental testing and data collection, outdoor safety, pollution wildlife study, and marine biology. It takes place at the school and a nearby outdoor laboratory, a school forest. Inservice training, teachers workshops, and student preparation and follow-up activities are included.

Materials: A Curriculum guide will be available by November 14th - Resource Teaching Units in Outdoor-Recreational Vocations. This was originally developed and tested with handicapped students and is written to apply to all students.

WISCONSIN (Continued)

Planning for an Ecology-Action Unit/Course
Madison Public Schools
Madison, Wisconsin

Mr. Marvin Meissen
Dept. of Curriculum Development
Madison Public Schools
P. O. Box 2189
545 W. Dayton Street
Madison, Wisconsin 53701

Description: This unit or semester course for 11th- and 12th-graders aims to devise a course framework through which a student may develop skills, attitudes, and knowledge as he becomes an informed, concerned, and functioning citizen. Specific environmental issues. The student is an active agent in the planning, determining which issues are to be studied and what strategy will be used. Specific local problems, such as those of lakes, noise, air pollution, and solid waste disposal, are identified and worked on. No inservice training or teacher workshops are included.

Materials: Planning for an Ecological Unit/Course, $1.

Project I-C-E (Instruction-Curriculum-Environment)
Green Bay, Wisconsin

Mr. Robert J. Warpinski
Director Project I-C-E
1927 Main Street
Green Bay, Wisconsin 54301

Description: The year-round project for students in grades K-12 is designed to improve instruction and curriculum in the area of environmental education. Teacher committees in school-year work sessions and a summer workshop develop a supplementary environmental education guide based on 12 major environmental concept categories for all major discipline areas, with emphasis on community resource utilization learning activities. Follow-up activities are also a part of the program.

This is a Title III ESEA regional service project working with 53 public school districts and any interested non-public schools. It includes the development of a regional Resource Material Center for instructional improvement and environmental education.

Materials: Guides for K-12 at $5 apiece: Language Arts, Social Studies, and Science.

WISCONSIN (Continued)

Science and Society
Madison Public Schools
Madison, Wisconsin

Mr. Marvin Maissen
Dept. of Curriculum Development
Madison Public Schools
P. O. Box 2189
545 West Dayton Street
Madison, Wisconsin 53701

Description: This program exposes students in grades 11-12 to some of the major problems (energy sources, population, pollution, etc.) confronting society. During the semester (or unit) the students investigate environmental pollution and control, energy sources, cybernetics, and population control.

Neither inservice training nor teachers workshops are used, but student preparation and follow-up are.

Materials: Science and Society, $2.

Mr. Hugh Curtis
Wausau District Public Schools
407 Grant Street
Wausau, Wisconsin 54401

Description: From mid-September through October and March through June students, primarily of grades 5 and 6, investigate forest protection and management, American Indians, soils, mapping and compass work, weather, stream improvement, wildlife, and other aspects of environmental education, using a nearby school camp. Fifth-graders spend 2½ days at the camp during winter, while 6th-graders spend one week there during either spring or fall.

Materials: Two guides have been produced, but both are currently out of print: "Outdoor Education K-3" and "Camp Directors Manual."

WYOMING

Environmental Education
Conservation Center for Creative Learning
School District No. 1

Mr. Robert J. Legoski
Director
Conservation Center for Creative Learning
863 Sweetwater Street
Lander, Wyoming 82570

Description: This year-round program for persons K-adult aims at curriculum development and inservice training, and as a resource center. Teacher inservice training and other new science curricula are handled through the University of

WYOMING (Continued)

Wyoming Science Teaching Center. Students visit and are taught at the Conservation Center.

Inservice training and teacher workshops are part of the program, as are student preparation and follow-up activities.

Materials: Activities in Environmental Education probably available in fall, 1971.